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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,609	09/30/2003	Haruaki Watanabe		2559
7590	03/20/2006		EXAMINER	
MATTINGLY, STANGER & MALUR, P.C. Suite 370 1800 Diagonal Road Alexandria, VA 22314			BLACK, LINH	
			ART UNIT	PAPER NUMBER
			2163	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,609	WATANABE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	LINH BLACK	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 September 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 11-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/30/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

This communication is in response to the document dated 9/30/03. Claims 11-26 are pending in the application. Claims 11, 16, 21, and 24 are independent claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 11-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Milligan et al. (US 5210866).

As per claims 11, 16, Blumenau et al. teach:

a host computer; and a storage system storing data accessed by said host computer – col. 5, lines 60-67.

wherein said storage system includes a first physical storage area in a disk in said storage system, a second physical storage area in a disk in said storage system, and a controller accessing a disk in said storage system – fig. 1, items 103-125 (disk drive manager and disk drive subsets); col. 3, lines 13-49.

wherein said first physical storage area corresponds to a first logical volume accessed by said host computer; said host computer stores backup data in said second physical storage area, said backup data is data stored in said first physical storage area at a

certain time; after said certain time, said controller updates data stored in said first physical storage area according to an access request to said first logical volume from said host computer - col. 3, lines 50 to col. 4, line 25; col. 21, line 11 col. 22, line 32. said host computer sends a swap request to said storage system upon occurrence of a failure in a sequence of processing executed by said host computer – col. 6, lines 43-61.

said controller relates said second physical storage area to said first logical volume according to said swap request, so that said controller accesses said second physical storage area when said controller receives an access request to said first logical volume from said host computer – col. 7, lines 29-66.

As per claims 12, 17, Blumenau et al. teach:

wherein before receiving said swap request, said controller relates an ID of said first logical volume to an ID of said first physical storage area and accesses said first physical storage area according to an access request including said ID of said first logical volume received from said host computer; after receiving said swap request, said controller relates an ID of said first logical volume to an ID of said second physical storage area, and accesses said second physical storage area according to an access request including said ID of said first logical volume received from said host computer – col. 3, line 50 to col. 4, line 46; col. 7, line 30 to col. 8, line 39.

As per claims 13, 18, Blumenau et al. teach:

wherein said backup data is stored in a tape medium, and said host computer stores said backup data from said tape medium to said second physical storage area – fig. 1; col. 8, line 40 to col. 9, line 20.

As per claims 14, 19, Blumenau et al. teach:

wherein said storage system includes plural first physical storage areas, each of which corresponds to a first logical storage area in said first logical volume, and plural second physical storage areas, each of which corresponds to one of said plural first physical storage areas – fig. 6, item 605; col. 3, line 12 to col. 4, line 46; col. 11, line 47 to col. 12, line 46.

said controller stores backup data in said plural second physical storage areas, backup data stored in a second physical storage area is data stored in a first physical storage area corresponding to said second physical storage area at a certain time – col. 5, line 30 to col. 6, line 3; col. 21, line 11 to col. 22, line 32.

according to said swap request, said controller relates one of said plural second physical storage areas to a first logical storage area which corresponds to a first physical storage area corresponding to said one of said plural second physical storage areas, so that said controller accesses said one of said plural second physical storage areas when said controller receives an access request to said first logical storage area - col. 7, lines 29-66; col. 3, line 50 to col. 4, line 46.

As per claims 15, 20, Blumenau et al. teach:

wherein before receiving said swap request, said controller relates an ID of said first logical volume to IDs of first logical storage areas and IDS of said plural first physical storage areas and accesses one of said plural first

physical storage areas according to an access request including said ID of said first logical volume and an ID of a first logical storage area - col. 3, lines 13-49.

and after receiving said swap request, said controller relates said ID of said first logical volume to said IDS of said first logical storage areas, an ID of at least one of said plural first physical storage areas, and an ID of said one of said plural second physical storage areas, and accesses said one of said plural second physical storage areas according to an access request including said ID of said first logical volume and an ID of a first logical storage area corresponding to said ID of said one of said plural second physical storage areas – col. 3, line 50 to col. 4, line 46; col. 7, line 30 to col. 8, line 39.

As per claims 21, 24, Blumenau et al. teach:

at least one disk; a first physical storage area in said at least one disk, said first physical storage area is included in a logical volume accessed by said host computer, a second physical storage area in said at least one disk – col. 2, lines 55-58; col. 3, line 13 to col. 4, line 46; col. 21, lines 11-65.

a controller coupled to said at least one disk; wherein backup data is stored in said second physical storage area, said backup data is data stored in said first physical storage area at a certain time; wherein said controller accesses said first physical

storage area according to an access request to said logical volume received from said host computer - col. 3, lines 13 to col. 4, line 47; col. 21, line 11 col. 22, line 32.

after said controller receives a swap request from said host computer, said controller accesses said second physical storage area according to an access request to said logical volume received from said host computer - col. 3, lines 50 to col. 4, line 47; col. 6, lines 4-61; col. 7, line 30 to col. 8, line 39.

As per claims 22, 25, Blumenau et al. teach:

wherein said controller relates an ID of said logical volume to an ID of said second physical storage area according to said swap request, so that said controller accesses said second physical storage area when said controller receives an access request including said ID of said logical volume after receiving said swap request - col. 3, lines 13-49.

As per claims 23, 26, Blumenau et al. teach:

wherein said backup data is stored from a tape medium to said second physical storage area – fig. 1; col. 8, line 40 to col. 9, line 20.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH BLACK whose telephone number is 571-272-4106. The examiner can normally be reached on 8am - 5pm.

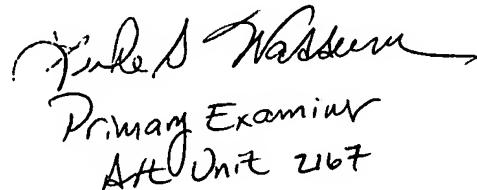
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LINH BLACK  
Examiner  
Art Unit 2163

March 14, 2006



Don Wong  
Primary Examiner  
Art Unit 2167